

ABSTRACT OF THE DISCLOSURE

Cutter elements including pointed contact structures and elements, and rock tools or bits for carrying those elements, for chipping, cutting, and breaking non-ductile materials are disclosed. The cutter elements, the ends of which directly contact and cut through rock and other materials, have tapered contact structure ends which are flatter than those known to the prior art, obtaining increased durability. The contact elements which may be part of the contact structures are selected of materials having hardness and other characteristics in relation to those of the mounting structures, including the tapered and projecting portions, which also add durability and wear-resistance to the elements. Fixed, replaceable, and rotatable cutter elements are disclosed. Rock tools including bits are also disclosed for carrying the cutter elements, having sockets for threaded or rotatable cutter elements arranged in straight or curved rows on the head opposite the drill-string-engaging base of the tool. The tool also has radially-extending buttresses which help to protect the cutter elements from damage as the drill string and head is withdrawn from a bore.

09727166-120100